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Nelson et al.

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## (54) DRUG RELEASING BIODEGRADABLE FIBER FOR DELIVERY OF THERAPEUTICS

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U.S.C. 154(b) by 54 days.

This patent is subject to a terminal dis-

claimer.

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# Related U.S. Application Data

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- (51) Int. Cl.

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- (52) **U.S. Cl.** ...... 424/426; 514/772.3

See application file for complete search history.

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#### (57) ABSTRACT

The present invention relates to fiber compositions comprising gels or hydrogels. The invention further relates to the composition of a gel or hydrogel loaded biodegradable fiber and methods of fabricating such fibers. The present invention further provides tissue engineering and drug-delivery compositions and methods wherein three-dimensional matrices for growing cells are prepared for in vitro and in vivo use. The invention also relates to methods of manipulating the rate of therapeutic agent release by changing both the biodegradable polymer properties as well as altering the properties of the incorporated gel or hydrogel.

#### 34 Claims, 11 Drawing Sheets

